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ABSTRACT

This paper examines how educational radio has been used to disseminate agricultural information to farmers in rural communities of Manitoba (Canada), and discusses implications for educational uses of radio in developing countries. In-depth interviews were conducted with 15 communication experts involved in rural extension services in Manitoba. The experts felt that they did not use radio to educate but to make farmers aware of timely and useful technical information and to inform farmers of practices that would improve farming and their quality of life. Experts planned radio programs cooperatively and, at times, in consultation with the target audience. Various program formats were used, and ideal program length was 30-45 minutes. Evaluation of radio programs was informal, with orientation toward listener feedback. Experts recommended that programming for farmers in developing countries should emphasize simplicity, community involvement, indigenosity, the Farm Radio Forum approach, and multimedia approach. A five-phase framework is proposed for educational uses of radio in the agricultural extension services of Nigeria and other developing nations. The five phases are needs assessment; cooperative planning and development by committees; production, which takes into account local problems, attitudes, beliefs, practices, language use, misconceptions, and government policies; implementation or delivery, which focuses on organizing listening groups and group discussions and gathering feedback; and evaluation of each of the other phases. Specific recommendations for implementation are listed. Contains 21 references. (SV)

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EDUCATIONAL RADIO: A TOOL FOR RURAL CHANGE

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ABSTRACT

It has been demonstrated that communication through the radio helps a person find alternative ways of living, raises a family's economic status, motivates the illiterate to become literate, and increases the aspirational level of rural farmers. In the literature, there is a consensus that educational radio is a rich resource of information on farming practices among rural farmers.

This paper reports on an investigation on how educational radio has been used to disseminate agricultural information to farmers in rural communities of Manitoba, Canada. It describes a developed framework for educational uses of radio in the agricultural extension services of developing countries. Finally, it recommends appropriate guidelines for radio's potential uses in the agricultural extension services of developing countries, and as a tool for discussing issues affecting rural communities.

EDUCATIONAL RADIO: A TOOL FOR RURAL CHANGE

> For it is the special glory of radio that it transcends boundaries, annihilates distance and creates a stronger sense of national unity and international brotherhood.
>
> -Canadian Broadcasting Corporation, 1941

Radio has been used extensively as an educational and informational medium in both developed and developing countries. Published reports confirm that radio has supported educational and informational programs in a wide range of subject and topic areas, and in many countries.

Educational radio has been employed within a wide variety of instructional design contexts. In some cases, it is supported by the use of printed materials, by local discussion groups, and by regional study centres. It is sometimes designed to permit and encourage listener reaction and comment. Infact, in some cases, there is provision for the audience to raise questions and to receive feedback.

The purpose of this paper is to report on an investigation on how educational radio has been used to disseminate agricultural information to farmers in rural communities of Manitoba, Canada. It describes the developed framework for educational uses of radio in the agricultural extension services of developing countries. It also recommends appropriate guidelines for radios' potential uses in the agricultural extension services of developing countries, and as a tool for discussing issues affecting rural communities.

DESIGN AND PROCEDURES

The design and procdures followed for this study were that of qualitative methods ascribed in part by Lincoln and Guba (1985), Miles and Huberman (1984), Carney (1983, 1972), Bogdan and Bilken (1982), Patton (1980), Glaser and Strauss (1967); and modelled in part by Woodley (1984). Specifically, this study followed the same procedures as Woodley's doctoral dissertation.

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The sample for the study was drawn from Manitoba, Canada and consisted of fifteen communication experts who have used radio to spread agricultural information to farmers in rural communities. The format selected for the study was that of in-depth structured interview and review of the related literatures.

A six section structured interview questions - 'interview guide' - was developed, pilot and field-tested, and used to conduct the interviews. Although the guide contained structured questions, the interview format was open-ended in that the respondents were free to answer in whatever way they felt appropriate. However, the responses were guided by their experiences and practices as communication experts.

After the interviews, transcripts were made for each one, and a summary of each interview was written as well. These were mailed out to the respondents for verification and qualitative validation. Following this, "displays" - summary charts and tables (Miles and Huberman, 1984) - were constructed and a collective summary of all interviews was written. Analysis of the data took place thereafter.

MAJOR FINDINGS

Bearing in mind the limitations of the investigation and of generalization, the findings of this study are , by design, inconclusive in and of themselves. However, from analysis and synthesis of the generated data, it is possible to identify a number of key findings. These findings applied to the three main questions of the study, and the five sections of the interview guide.

Regarding the first question, it was found that the interviewed Manitoba communication experts do not use radio to educate but to maker farmers aware, to remind and to inform farmers in rural communities. It was also found that the purpose of disseminating information was two fold:

a) to provide 'timely', 'up-to-date', 'accurate', 'useful', 'technical' and 'how to do' farming information; and

b) to improve 'farming practices and market decisions', 'farm management ability', 'quality of life', 'income', and 'standard of living' on the farm. (Nwaerondu, 1986, p.250)

With regards to the 'how' of information dissemination, it was found that:

1. Manitoba Communication experts plan radio programmes "cooperatively" and sometimes, in consultation with the target audience. Most of the respondents in the study indicated that they involve the target audience during the planning processes. Although mostly indirectly and informally, these involvements varied and ranged from consultation with experts and specialists in the field to cooperative efforts of agricultural organizations.
2. Manitoba Communication experts produce radio programmes by following four major steps. These steps follow two main routes and are preceded by identification - needs assessments and research.
3. Manitoba Communication experts deliver information by, unconsciously, following the good folklore practice of "INTRODUCTION-CONTENT-SUMMARY." Also, the participants in the study professed the viability of interview and discussion formats of delivery; and the use of print media in conjunction with radio programmes.
4. Manitoba Communication experts evaluate radio programmes informally with orientation towards feedback. Since radio is not used for educational purposes, most of the respondents evaluated their programmes informally. In this case, the results were believed to be mainly used for programme improvements.
5. Manitoba Communication experts made some relevant and reasonable recommendations for the educational uses of radio in the agricultural extension services of developing countries. In their recommendations, five significant characteristics that must be taken into consideration when programming for farmers in rural communities of any developing country were identified. These characteristics were: simplicity, community involvement, indigenosity, Farm Radio Forum approach and multi-media approach. The respondents in the study professed the indispensability and viability of these characteristics in any educational radio programming, especially for illiterate and neo-literate rural adults.

Concerning the second research question, it was found that the agricultural extension services of developing countries has used radio to educate, and to spread agricultural information to farmers in rural communities. In general, the study seemed to confirm McAnany's popular discovery about "radio's role in development." According to McAnany (1976), there are "five strategies of use" for radio, namely:

1. open broadcasting: the unorganized audience
2. instructional radio: the organized learning group
3. radio rural forum: the decision group
4. radio school: the nonformal learning group
5. radio and animation: the participating group

These stratigies have been used extensively in the agricultural extension services of many developing countries.

In particular, the reviewed related literature and the described projects revealed that the agricultural extension services of developing countries use radio for a variety of purposes. The "how" or "strategy" of these uses depended upon many factors and attributes such as the purpose, the context, the society and its political system, the organizing body, the abundance or lack of needed resource materials and the educational level of the target audience, to name but a few.

From the foregoing, and concerning the third research question, it appeared that the researcher (or any experienced educationally conscious individual) cannot specifically and accurately state "how" Nigeria and other developing countries can use radio to educate and disseminate agricultural information to farmers in rural communities. Because, any potential guidelines for educational uses of radio has to be culturally bound, politically bound, contextually bound, purposely bound, needfully bound and organizationally bound. For these reasons, the researcher feels that any developed guidelines must be tentative and subject to adoption, modification and adaptation to each society's circumscriptions.

RECAPITULATION

The purpose of this conclusion is to summarize briefly the facts brought out in this study which may assist potential users of educational radio in developing countries. From the study, it can be concluded that:

1. The use of committees in which each concerned segment of the society/community is represented at various stages of the plan, production, implementation/delivery and evaluation processes of radio programming is effective, and more desirable.
2. Various forms of programme production such as drama, panel discussions, interviews and debates add variations in modes of presentation and thus, vitalize participants interests.
3. The length of educational radio programmes should be 30 minutes, maximum to be 45 minutes with intermittent breaks. Also, the broadcast times should depend upon the farming practices, seasons of the year, country and may be different for different farmers.
4. Advance preparation and production of programme plans and guides aids readiness.
5. Human interaction is necessary for adoption and adaptation of any innovation:
   a) Group radio listening followed by group discussion is more influential in changing attitudes and beliefs toward innovation.
   b) A mixture of radio programmes with home visits by agricultural extension agents and other related specialists

improves communication, learning, retention of information and provides feedback.

c) Two-way flow of information improves learning and retention of information.

6. The use of radio in conjunction with other media such as prints, posters, slides and person-to-person contacts enables adequate coverage of subjects and provides reinforcement.

FRAMEWORK FOR EDUCATIONAL USES OF RADIO

The significance of this study was to establish a framework for educational uses of radio in the agricultural extension services of Nigeria and other developing countries. It appears that this study is fruitful since it is now possible to provide a tentative framework for consideration.

A five phase framework is proposed for educational uses of radio in the agricultural extension services of Nigeria and other developing countries. This section describes the components of each phase.

Phase 1: NEEDS ASSESSMENTS.

The needs assessments phase of educational uses of radio should determine the gaps between current use and required (or desired) uses (Kaufman & Stone, 1983, Mayer, 1986). It should attempt to answer the following questions:

> -where are we going? (or what are we to accomplish?); and
> -why are we going there? (—and, how far is it from where we are now?) (Mayer, 1986, p.117).

By answering these questions, the organizers should determine the existed gaps, the targeted destination and the raison d'etre for working towards such destination. These questions should be answered by conducting preliminary research studies and consultations with village chiefs, local community heads, village teachers and other active responsible and recommended individuals. Such preliminary studies and consultations must aim at assessing the specific needs of the concerned society, community, village or rural area, as well as answer the various problems foreseen by the respondents in this study.

Phase 2: PLANNING AND DEVELOPMENT.

Once needs assessments show a green light to continue, the organizers are automatically in phase 2 of the framework. In this phase, a foundation and standing block for educational uses of radio should be laid. To accomplish this, the organizers should form various planning and development committees such as:

a) Advisory Committee: Which will oversee the whole scheme and provide advice as required or where necessary.

b) Planning Committee: which will be in charge of planning and controlling the whole scheme.

c) Subject Committee: which will be in charge of determining the subjects and topics of interest to the target audience.

d) Production Committee: which will be in charge of writing up the scripts, producing study/forum guides and the whole programme. It may consist of subcommittees such as print material producers, writers and audio-producers.

e) Delivery Committee: which will be in charge of organizing listening groups, heading group discussions, overseeing the use of equipment and providing feedback to the planning committee. It may also consist of subcommittee such as village chiefs, secretary convenors, field advisors/teachers etc; and finnally,

f) Evaluation committee: which will be in charge of carrying out on-going formative evaluation, providing continuous feedback for scheme modification and improvements; and carrying out a final-summative evaluation to assess the results and effectiveness of the scheme.

These committees must work cooperatively and in conjunction with each other. They must have a communication network which will enable them to provide a workable timetable for all their activities, responsibilities and coordinations.

Phase 3: PRODUCTION.

If the above two phases are carried out effectively, Phase 3 will be simplified immensively. It then becomes a collection and coordination of ideas and concepts from each committee; and the production of the programmes, support materials and scripts by the production committee.

Of particular significance to the production phase is the subject committee and its activities. This committee must determine the subjects and topics in such a way so as to avoid criticism. This can be done by involving representatives of all concerned segment of the society during the initial brainstorming of subjects. Alternatively, it could be done through consultation and research. In this case, it should focus on the following questions:

a) What problems do people have?

b) What are the solution to these problems?

c) What are the constraints in applying these solutions?

d) What vested interests are threatened by the solutions?

e) What will the solutions cost (the individual,the family, the nation)?

f) What are people's attitudes?

g) What do people believe?

h) What do people do or practise at present?

i) What language do people use when talking about these things?

j) What misconceptions do people have?

k) What are the current and proposed policies of the government?

l) What history is there of previous actions in this area?

m) What regional variations should be considered (problems, solutions, languages etc.)?

(Crowley et al. 1981, p.22).

Phase 4: IMPLEMENTATION/DELIVERY.

As an action phase, the planning and advisory committee is expected to open up the building whose foundation was laid in phase 2. Although the delivery committee has a lot more responsibilities, the success of the whole scheme depends upon effective execution of each committee's responsibilities. The production committee must be able to supply programme guides and support materials based upon advice of the advisory committee and the subjects recommended by the subject committee. The delivery committee must make sure that participants are organized and ready to receive the information. The programmes must be soundly based upon feedback provided by the evaluation committee right from the beginning, and pilot stages to the delivery phase.

Phase 5: EVALUATION.

The effective execution of responsibilities should be determined by the evaluation committee right from the beginning to the end. Therefore, each phase of the processes should be evaluated and provided feedback as to their improvements. The final-summative evaluation will then be done at the end of the project.

It must be borne in mind that these five phases of the framework runs parallel with each other interacts with each other and must be coordinated - like a suprasystem with systems and subsystems - in order to accomplish any predetermined purposes. This can only be done through a suitable communication network which allows every member/committee to cooperate, consult and coordinate the whole scheme. Specifically, this framework must be viewed as a suprasystem with systems and subsystems. The systems are the five phases of the framework while the subsystems are the different activities to be performed by each committee.

RECOMMENDATIONS FOR EDUCATIONAL USES OF RADIO

Based upon the structured in-depth interviews, review of the related literature and described projects (findings, developed

framework and conclusions) in the study, it is possible to make some recommendations for consideration. Thus, for any educational or impact-participatory information uses of radio in the Agricultural Extension Services of Nigeria, and other developing countries, the researcher recommends the following:

1. **Consideration of the developed framework for educational uses of radio.** This framework views educational uses of radio as a suprasystem with systems and subsystems which must be planned, organized and coordinated in order to accomplish a predetermined purpose. The systems (e.g. plan, production, etc.) and subsystems (e.g. organizing listening groups) must be interrelated with each other, and must provide continuous feedback for modification and improvement of the suprasystem. In this framework, the processes of using radio to educate is viewed as a ' science of organizing and organization.'

2. **Application of the five significant characteristics recommended by the respondents.** As has been explicated through reflexivity literatures, these characteristics are very indispensable, especially when programming for illiterate and neo-literate adults. Experience gained from this study indicates that their application will enhance any educational radio programme and thus aid the accomplishment of project objectives.

3. **Educational Radio Handbook or Guide be produced.** For effective utilization of radio as an educational medium, it is desirable to have printed words to act as a guide, advance organizers and a reinforcer. This approach was used in Ghana, India and the Dominican Republic and has proved to be a necessity. Hence, for educational uses of radio in the agricultural extension services of Nigeria, and other developing countries, it will be necessary to provide a handbook which will contain:
   a) The objectives of the project and each individual programme;
   b) Materials of use to participant as well as group leaders;
   c) Specific suggested supplementary reference materials such as books,papers and contact persons;
   d) Specific suggested supplementary activities/practices;
   e) Comprehensive outlines of subject matters to be covered during each broadcast;
   f) Specific suggested methods of group preparation before the broadcast;
   g) Questions and ideas for discussion; and
   h) A calendar indicating the date and name of the broadcasts to be received.

   This handbook must be provided to each participants ahead of time. Inclusive in this havdbook should be a special guideline for group leaders or field teachers. It should include:
   a) Preparation to be made for the broadcasts;
   b) Activities to be used during the broadcasts;
   c) Follow-up activities after the broadcast;
   d) Methods of organizing for listening; and
   e) Use of sound equipment (radios).

4. **Systematic training of producers and field organizers/teachers.** Irrespective of the background and experience of programme and material producers, field organizers/teachers, and other involved individuals, it is absolutely necessary to organize some 'pre-service' or 'in-service' training for them (FAO,1977). This training should aim at creating awareness and understanding of the aspects of rural development, effective utilization of educational broadcasting, providing clear operating procedures, ensuring that each participant is clear about their responsibilities and authorities, and that all involved agencies or their representatives understand what their roles are and what is expected of them.

5. **Vernacular (or local dialects) and competent vernacular facilitators should be used.** It will be ill-advised to use English or any foreign language for either the radio programme or group discussion when most of the people really relate better to a tribal language of some kind; because the effectiveness of any rural radio programmes should depend essentially on the clarity of voices, exactness of the presented text and speed of presentation. Furthermore, the use of local dialects should account for regional peculiarities and differences with respect to programme preparation and production. This approach has proved to be successful in Ghana, India, Benin Republic and many other developing countries.

6. **Each radio programme be recorded on tapes and made available to absent participants.** Since everybody in the rural areas is not punctual, nor healthy at all times especially in developing countries where the notion of time is valueless, it would be wise to record the programmes on tape. This could be done by group leaders or organizers. The tapes can be used for various purposes: for the individual active participants who were absent; for young groups of farmers, clubs and associations who might be interested, and for reinforcement purposes.

7. **The maximum length of any educational radio programmes should be forty-five minutes.** Because of the limited attention span and the inability to retain verbal information for a longer period of time, it is hereby recommended that the length of educational radio programmes be thirty mninutes, maximum to be forty-five minutes with intermittent breaks and discussions as in the case of Radio Santa Maria.

8. **Adoption and adaptation of the modified ten steps of launching a campaign developed by Crowley, Etherington and Kidd (1968) in their Radio Learning Group Manual.** These steps are based upon practical experience in Tanzania and Botswana. Although subject to adoption, modification and adaptation because of the various societal circumscriptions mentioned above, these steps have proven to be relevant and indispensable. It has been used in this way by many developing countries.

9. **Considerations of the important lessons learned from several Radio Learning Group (RLG) Campaigns.** These are:
   a) Get an early agreement among all concerned on the how to plan and run the campaign.
   b) Work out clear operating procedures that suit your situation. They can never be too simple.
   c) Be clear about who is in charge and about the limits of his or her authority.
   d) Make sure you have sufficient staff - listen to them and keep them fully informed.
   e) Make sure that all agencies involved understand what their role is and what is expected of them.
   f) Make sure that the campaign (or project) has enough money and the expenditure is properly accounted for. (—).

   (Crowley, Etherington & Kidd, 1968, p. 42).

10. **Finally, adherance to the above conclusions, proposed framework and recommendations.** It is the researcher's belief that if the above conclusions, proposed framework and recommendations are carefully studied, adopted, modified and adapted to each potential users culture, context, need, political and organizational structures, the educational or impact-participatory purposes of using radio must be fully achieved. To put it in another way, permit me to borrow this idea from Michael Neil (1981) which says:

> ..., before you "adapt", listen to your mother tongue, Learn your own people's games, Observe you people's technologies, listen to them describing their functionings, then, do get inspired by the above [framework, conclusions, and recommendations]... (p.96).

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